

KHROMOV, P.O.

Some problems in technical progress and economics in the industry of
the U.S.S.R. Visnyk AN URSS 28 no.3:3-11 Mr '57. (MLRA 10:5)
(Russia--Industries)

SOV-25-58-7-48/56

AUTHOR: Khromov, P.A., Professor, Doctor of Economic Sciences

TITLE: Profound Research (Glubokoye issledovaniye)

PERIODICAL: Nauka i zhizn', 1958, Nr 7, p 73 (USSR)

ABSTRACT: The author reviews the book "History of the Ferrous Metal Industry in the USSR" by the senior Soviet economist and statistician, Academician S.G. Strumilin; USSR Academy of Sciences.

1. Metals--History 2. Metals--USSR

Card 1/1

SLASHCHEV, K.R., kand. ekonom. nauk; KHROMOV, P.A., prof.

Industrial upsurge in Russia in the nineties of the nineteenth century. Sbor. nauch. trud. Ivan. sel'khoz. inst. no. 16:5-14 '58.

(MIRA 13:11)

1. Kafedra marksizma-leninizma Ivanovskogo sel'skokhozyaystvennogo instituta (for Slashchev).
(Russia--Industries)

KHROMOV, P.

("Outlines of history of the textile industry in prerevolutionary
Russia. Cotton, flax-hemp, and silk industry" by K.A. Pashitnov"
Reviewed by P. Khromov). Vop. ekon. no.8:127-129 Ag '59.
(MIRA 12:11)

(Textile industry)
(Pashitnov, K.A.)

KHROMOV, P.A.; VORONINA, M.V., red.; NAUMOV, K.M., tekhn.red.

[Studies on the Russian national economy in the period of monopolistic capitalism] Ocherki ekonomiki Rossii perioda monopolisticheskogo kapitalizma. Moskva, Izd-vo VPSH i AON pri KPSS, 1960. 239 p. (MIRA 13:7)
(Russia--Economic conditions)

BUDNIK, G.I., kand.ekon.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk;
 SARYCHEV, V.G., kand.ekon.nauk; PREOBRAZHENSKIY, A.A., kand.
 istor.nauk; AVDAKOV, Yu.K., dotsent, kand.ekon.nauk; POLYANSKIY,
 P.Ye., prof., doktor istor.nauk; ZUTIS, Ya.Ya. [Zutis, J.];
 GULANYAN, Kh.G., prof., doktor ekon.nauk; GULANYAN, Kh.G., prof.,
 doktor ekon.nauk; KONYAYEV, A.I., dotsent, kand.ekon.nauk;
~~KHROMOV, P.A., prof., doktor ekon.nauk; SHALASHILIN, I.Ye., dotsent,~~
 kand.ekon.nauk; SHERYAKIN, I.N., dotsent, kand.ekon.nauk; POGRE-
 BINSKIY, A.P., prof., doktor ekon.nauk; ORLOV, B.P., dotsent, kand.
 ekon.nauk; TYUSHEV, V.A., kand.ekon.nauk; BALASHOVA, A.V., kand.
 ekon.nauk; MOZHIN, V.P., kand.ekon.nauk; MINDAROV, A.T., dotsent,
 kand.ekon.nauk; SHIGALIN, G.I., prof., doktor ekon.nauk; GOLUBNI-
 CHIY, I.S., prof., doktor ekon.nauk; VOSKRESENSKAYA, T., red.;
 BAKOVETSKIY, O., mladshiy red.; MOSKVINA, R., tekhn.red.

[History of the national economy of the U.S.S.R.; lecture course]
 Istoriia narodnogo khozistva SSSR; kurs lektsii. Moskva, Izd-vo
 sotsial'no-ekon.lit-ry, 1960. 662 p. (MIRA 13:5)

1. Deystvitel'nyy chlen AN Latvyskoy SSR (for Zutis).
 (Russia--Economic conditions)

KHROMOV, P.

Several problems of technological progress in the industry
of the U.S.S.R. Vop.ekon. no.7:27-38 J1 '60.
(MIRA 13:5)

(Technology)

KHROMOV, P.

Labor productivity in the industry of the U.S.S.R. and
capitalist countries. Vop. ekon. no.8:49-60 Ag '61. (MIRA 14:7)
(Labor productivity)

KHROMOV, Pavel Alekseyevich; STRUMILIN, S.G., akademik, otv. red.;
LUCHKINA, A.N., red. izd-va; GOLUB', S.P., tekhn. red.

[Several laws governing the development of industry in the
U.S.S.R.; types of industry, technological progress and
development rates] Nekotorye zakonomernosti razvitiia pro-
myshlennosti SSSR; formy promyshlennosti, tekhnicheskii
progress, tempy razvitiia. Moskva, Izd-vo Akad. nauk SSSR,
1963. 323 p. (MIRA 16:5)

(Russia--Industries)

KHROMOV, Pavel Alekseyevich, doktor ekon. nauk, prof.; TRIFSIK,
G.B., red.; BAZLOVA, Ye.M., mlad. red.; PONOMAREVA, A.A.,
tekhn. red.

[Labor productivity in the U.S.S.R. industry] Proizvoditel'-
nost' truda v promyshlennosti SSSR. Moskva, Ekonomizdat,
1963. 162 p. (MIRA 16:10)

(Labor productivity)

MATUSEVICH, M.G., kand. ekon. nauk; MILOVANOV, V.A., kand. ist. nauk; NIKITIN, G.A., kand. geogr. nauk; GURVICH, G.Ts. kand. ekon.nauk; GOLUBEV, B.P., nauchn. sotr.; KRUTILINA, T.N., nauchn. sotr.; MIKHNEVICH, L.M., nauchn. sotr.; GIORGIDZE, Z.I., kand. ekon. nauk; RAVUN, I.I., kand. ekon. nauk; OKUN', M.V., kand. ekon.nauk; KOVALEVSKIY, G.T., kand. ekonom. nauk; KHROMOV, P.A., doktor ekonom. nauk, nauchnyy red.; LEONENKO, I., red. izd-va; ATLAS, A., tekhn. red.

[Economy of White Russia during the period of imperialism, 1900 - 1917] Ekonomika Belorussii v epokhu imperializma, 1900-1917. Minsk, Izd-vo AN BSSR, 1963. 420 p.
(MIRA 17:3)

1. Akademiya navuk BSSR, Minsk, Instytut ekonomiki.
2. Instiut ekonomiki AN BSSR (for all except Leonenko, Atlas).

KHROMOV, P.I.; REVZINA, F.S.; RYABCHIKOVA, O.A.; YEGOROV, V.D.

Use of ropes on excavators with linear contact of the wires in strands. Gor.zhur. no.5141-42 My '62. (MIRA 16:1)

1. Magnitogorskiy kalibrovочный завод (for Khromov, Revzina, Ryabchikova). 2. Nauchno-issledovatel'skiy institut metiznoy promyshlennosti (for Yegorov).
(Wire rope)

FOMIN, G.M.; KHROMOV, P.I.; RYABCHIKOVA, O.A.; REVZINA, F.S.;
YEGOROV, V.D.

New wire rope construction for skip hoisters on blast
furnaces of the Magnitogorsk Metallurgical Combine. Metallurg
6 no.10:31-33 0 '61. (MIRA 14:9)

1. Magnitogorskiy kalibrovochnyy zavod i Nauchno-issledovatel'-
skiy institut metiznoy promyshlennosti.
(Magnitogorsk—Blast furnaces—Equipment and supplies)
(Wire rope)

ACC NR: AP5028610 (N) SOURCE CODE: UR/0337/65/000/011/0036/0037

AUTHOR: Yegorov, V. D.; Mamykina, E. M.; Khromov, P. I.; Revaina, F. S.

ORG: NIImetiz - MKZ

TITLE: Use of polymeric materials for steel cable coatings¹⁵

SOURCE: Rybnoye khozyaystvo, no. 11, 1965, 36-37

TOPIC TAGS: protective coating, polycaprolactam resin, wire product, connecting cable / LK-O connecting cable, TK connecting cable¹⁷

ABSTRACT: The results of testing steel cables with coatings made of capron¹⁵ material (polycaprolactam resin and fiber) are presented. The best results were obtained with coating films of up to 0.7-mm thickness formed on steel cable cores of up to 6-mm at temperatures of 230, 240, 255 and 260 C. It is mentioned that parkerized core wires have the best adhesive properties (40 kg/sq cm) while vitrified wires have the lowest adhesion (12 kg/sq cm). The effects of various core temperatures (150 to 600 C) on the adhesive and mechanical properties of capron films were studied and a temperature of about 400 C is recommended for preheating of cores. The cables made of coated strands shows the best endurance (3.3 times greater). The test proved that a 0.5-mm film produced a 2 to 3 times increase in cable endurance. A further increase of the film thickness had little effect on the cable endurance. The steel cables with coated strands of LK-O¹⁵ type (6 x 19 + 7 x 7; d = 25 mm) and of TK type (6 x 37 + 1 core; d = 15 mm) were prepared and successfully used on fishing ships. Their cross-sections are shown. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: None

Cord 1/1

YEGOROV, V.D., inzh.; KHROMOV, P.I., inzh.; REVZINA, F.S., inzh.

Using polymer materials in the production of steel wire rope.
Stal' 25 no.3:278-280 Mr '65. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut metiznoy promyshlennosti
i Magnitogorskiy kalibrovchnyy zavod.

LAPTEV, V.K.; KHROMOV, P.M.

New mixture composition for coating centers and extensions.
Shor.rats.predl.vnedr.v proizv. no.1:12 '61. (MIRA 14:7)

1. Azerbaydzhanskiy truboprokatnyy zavod.
(Protective coatings)

Khranov, P.P.

KOZLOVSKIY, A.A.; KOGAN, I.Ya.; SMIRNOV, G.Ya.; POLYAKOV, V.G.;
KORZHETSKIY, V.P.; KHRONOV, P.P.

Equipment for a four-legged tower crane assuring efficient
movement and operation within a small working range. Rats. 1
izobr. predl. v stroi. no.2:46-48 '57. (MIRA 11:1)
(Cranes, derricks, etc.)

KHROMOV, S., ~~hand.~~istor.nauk, dotsent

Ardent fighter for communism; 85th anniversary of
F.E. Dzerzhinskii's birth. Mor. flot 22 no.9:4-6 S '62.
(MIRA 15:12)

1. Moskoyskiy gosudarstvennyy universitet.
(Dzerzhinskii, Feliks Edmundovich, 1877-1926)

KHROMOV, S., polkovnik, kand. voyennykh nauk

A bright page in the history of combat cooperation of brother
nations. Komm. Vooruzh. Sil 46 no.5:87-89 Mr '65. (MIRA 18:4)

KHROMOV, S.A., inzh.; ABRAMOV, Yu.K., inzh.

Automatization and mechanization practices in weaving operations.
Tekst. prom.21 no.1:62-65 Ja '61. (MIRA 14:3)

1. Shuyskaya ob'yedinennaya fabrika.
(Weaving) (Automatic control)

1ST AND 2ND CROSS																										3RD AND 4TH CROSS																									
PROCESSES AND PROPERTIES INDEX																										1ST AND 2ND CROSS																									
<p>Ca</p> <p>Polymerization of butadiene, isoprene, dimethylbutadiene and cyclohexadiene. N. D. Zelinskii, Ya. I. Denisenko, M. S. Evenova and S. I. Khromov. <i>Soviet Rubber</i> 1933, No. 4, 11-14.—The effect of the presence of $AlCl_3$ on the polymerization of synthetic rubbers was investigated. It was found that when in contact with $AlCl_3$: (1) 2,3-dimethylbutadiene polymerized in 24 hrs. with considerable evolution of heat to a white, soft substance different from the product of slow polymerization; (2) isoprene gave similar results; (3) pure butadiene did not polymerize very readily; (4) butadiene contg. 20-50% other hydrocarbons (mostly pseudobutylene) polymerized rapidly, forming a grayish white, sticky, viscous substance contg. milky particles; (5) 1,3-cyclohexadiene polymerized only when heated, and (6) 1,4-cyclohexadiene polymerized when warm, the product of polymerization being partly hydrogenated and the 1,4-cyclohexadiene dehydrogenated to benzene.</p> <p>James Sorel</p>																										30																									
<p>ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																										<p>1ST AND 2ND CROSS</p>																									

1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
COMMON ELEMENTS																										SPECIAL ELEMENTS																									
<p><i>Ca</i> 30</p> <p>The source of Thiokol odor. N. D. Zelinskii, Ya. I. Denisenko, M. S. Eventova and S. I. Khromov, <i>J. Rubber Ind. (U. S. S. R.)</i> 11, 111-15 (1934) cf. <i>C. A.</i> 28, 5713. Thiokol is formed according to the reaction: (1) $n(C_2H_5Cl) + n(Na_2S) = 2n(NaCl) + (C_2H_5S)_n$. Na_2S always contains $NaOH$, which reacts with C_2H_5Cl according to (2) $n(C_2H_5Cl) + nNaOH = n(NaCl) + (C_2H_5O)_n$. Na_2S hydrolyzes as follows: (3) $Na_2S + H_2O = NaOH + NaSH$. C_2H_5Cl reacts with $NaSH$:</p> <p>(4) $(CH_3CH_2)_2S + 2NaSH = (CH_3CH_2)_2SH + 2NaCl$. (5) $(CH_3CH_2)_2S + CH_3CH_2CH_2Cl = C_6H_{13}S + 2HCl$. Thiokol is a mixt. of $(C_2H_5S)_n$ and $(C_2H_5O)_n$ (about 4%). When heated above 70°, Thiokol forms ethylene mercaptan together with other sulfur-bearing compds. These impart a disagreeable odor to Thiokol. A. Pestoff</p>																																																			
<p>ASTM - S.A. METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

Cyclohexylcyclopentane and its transformation in the catalytic dehydrogenation and hydrogenation. S. I. Khosrovov, *J. Gen. Chem.* (U. S. S. R.) 7, 350 (1937).

Zelinskii et al. (*cf. C. A.* 29, 153^a, 795^b) showed that cyclopentanone and alkylcyclopentanones in the process of hydrogenation in the presence of Pt-C are converted into the corresponding paraffins. Cyclohexylcyclopentane (I) reacted with H₂ in the presence of platinumized charcoal at 300-10°, forming 26% AmPh, b.p. 200-1°, 35% PhCH-MePr, b. 16-3°, 16% PhCHEt, b.p. 187°, and 14% phenylcyclopentane (II), b.p. 215-18°. Thus, under these conditions simultaneous reactions of hydrogenation and dehydrogenation take place. The hexamethylene cycle is dehydrogenated to the C₁₀H₁₈ ring with the intermediate formation of II. The pentamethylene ring in II is cleaved, adding 2 H atoms and forming the isomeric allylbenzenes. I, b.p. 213.5-15°, d₄²⁰ 0.8827, n_D²⁰ 1.4730, M. R. 48.8 (48.6 calcd.), was prepd. by the Grignard condensation of PhBr with cyclopentanone to phenylcyclopentanol. The alc. distd. with EtOH and (CO)₂H, gave phenylcyclopentene. This rectified over platinumized Al₂O₃ in a H current at 220-5° was converted into I. It was purified by treating with 100% H₂SO₄ and distg. over Na. (Chem. Abstr.)

ca

Hydrogenation of butylbenzene isomers by $\text{Ca}(\text{NH}_2)_2$.
S. I. Khromov and Z. A. Rumyantseva (Moscow State Univ.). *J. Gen. Chem. (U.S.S.R.)* 15, 303-7 (1945) (English summary).—Reaction of $\text{Ca}(\text{NH}_2)_2$ with 1-phenylbutane, 2-phenylbutane and *tert*-BuPh leads to compds. with 1 double bond which are capable of forming solid nitroso chlorides. Ca (10-12 g.) was subjected to the action of dry NH_3 for 4.5-5.0 hrs. and the product was treated with 8-12 g. of the hydrocarbon diol. with a small amt. of Et_2O ; after standing for 24 hrs. the mixt. was heated on a water bath for 1-1.5 hrs., extd. with Et_2O , and the process was repeated 3 times. PhBu gave 1-(1-cyclohexenyl)butane, b. 180-2°, n_D^{20} 1.4579, d_4^{20} 0.8211; nitrosochloride, m. 97.5-8° (from $\text{EtOH-Me}_2\text{CO}$). PhCHMeBu gave 2-(1-cyclohexenyl)butane, b. 172-4°, n_D^{20} 1.4588, d_4^{20} 0.8230; nitrosochloride, m. 115-15.5° (from $\text{EtOH-Me}_2\text{CO}$). *tert*-BuPh gave the 1-*tert*-butylcyclohexene, b. 167-8°, n_D^{20} 1.4010, d_4^{20} 0.8302; nitrosochloride, m. 90-0.8° (from $\text{EtOH-Me}_2\text{CO}$). G. M. Kosolapoff

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Lab. Organic Chem. in N. D. Zelinskiy, Moscow State U.

KHROMOV, S. I., BORISOV, P. P., EVENTOVA, M. S., TARASOVA, E. M.

"Increasing the Octane Number of Grozny Gasoline," Neft. Khozyaistvo, 1946, 24, No. 1, 60-2, Chem. Abstr., 1946, 40, 6792

The increase in octane no. of an octane fraction of Grozny gasoline after isomerization in the presence of clay activated with metal oxides compares unfavorably with that of pure octane treated under similar conditions, being 4 points against 25 points. This poor response is apparently due to the inhibiting effect of naphthenes present in the above fraction. Tests on 4 mixtures of octane with methyl-cyclohexane, ethylcyclopentane, toluene, and 2,2,3-trimethylpentane, respectively, give proof that naphthenes inhibit isomerization of normal paraffins in the presence of clay while aromatic compounds do not and even are beneficial. A similar effect of the naphthenes is observed also in the treatment of other fractions of Grozny gasoline with $AlCl_3$ and HCl , as well as with Zikeev clay. Therefore naphthenes must be removed at the start. Another means of increasing the octane No. of Grozny gasoline is by aromatization of the paraffins, by use of a modified $CrO_3-Al_2O_3$ catalyst originally prepared by Grosse, et al. (CA 34, 4384). This treatment raises the octane number to 95 with 3 cc. $PbEt_4$ per kg., and octane is converted chiefly to benzene, toluene, and some xylene. The catalyst is easily regenerated by blowing with dry air.

KHROMOV, S. I. : PIK, YE. I: AKISHIN, P. A. : NIKITINA, L.M.

Ethylcycloheptane

Contact transformation of ethylcycloheptane in the presence of platinized carbon. Vest.
Mosk. un 7 No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October, 1952 ~~1953~~ Unclassified.

KHROMOV, S. I.

PA 239T18

USSR/Chemistry - Aromatic Hydrocarbons Aug 52
Alkylation

"Catalytic Transformation of Ethyl-Substituted
Five- and Six-Membered Hydrocarbons," S. I. Khromov,
S. B. Novikov, N. A. Radzhabli, and Acad N. D.
Zelinskiy, Inst of Org Chem Acad Sci USSR

"DAN SSSR" Vol 85, No 5, pp 1053-1056

A study was made of the stability of the C - C bond
in the ethyl group of ethyl-substituted cyclopentane,
cyclohexane, and benzene. It was found by
means of catalytic transformation over a special
Ni catalyst that ethyl cyclohexane dealkylates
more easily than ethyl benzene, which dealkylates
more easily than ethyl cyclopentane. 239T18

KHROMOV, S.I.; NOVIKOV, S.S.; RASULOVA, I.L.; ZELINSKIY, N.D.

Catalytic reactions of butyl-substituted benzene and cyclohexane. Doklady
Akad. Nauk S.S.S.R. 87, 613-16 '52. (MLRA 5:11)
(CA 47 no.20:10489 '53)

1. M.V. Lomonosov State Univ., Moscow.

Khromov, S. I.

USSR.

✓ Conversion of the derivatives of cyclopentane on alumina-silica catalyst. K. V. Topchieva, E. N. Rosolovskaya, E. G. Treshchova, S. S. Novikov, and S. I. Khromov. *Vestnik*

Moskov. Univ. 8, No. 12, *Fiz.-Mat. i Estestv. Nauk* No. 8, 97-100(1963).—Cyclopentane (I), methylcyclopentane (II), ethylcyclopentane (III), isopropylcyclopentane (IV), and butylcyclopentane (V) undergo thermal decompn. on tech. Al-silica catalyst (VI) at $500 \pm 1^\circ$. I and II undergo negligible changes. III yields II, toluene, isopentane, and some unknown hydrocarbons. IV gave derivs. of cyclohexane (68%). V gave a mixt. of mono- and trisubstituted derivs. of C_6H_8 (80%), and also derivs. of cyclopentane. For each expt. 94 ml. of VI was used, and the hydrocarbons were introduced into the quartz tube at a vol. velocity of 0.5. VI is regenerated in air at 600° , and its activity standardized (cf. *Vestnik Moskov. Univ.* 3, No. 11, 133(1948)). M. D.

Khromov, S. I.

Contact transformations of phenylacetylene
Khromov and E. A. Kuznetsov
Dokl. Akad. Nauk SSSR, 1963, 177, 147-148
1963, 177, 147-148
1963, 177, 147-148

undecylenol, 4.35 g, 0.02 mole, 0.02 mole
1.1 g fluorene. The liquid was distilled under
phenylcyclohexane, 5% MeOH, 5% MeOH, 5% MeOH
and 5% MeOH, the latter being the best solvent
for the reaction.

1145.

G. M. Kuznetsov

USSR/ Chemistry Catalytic conversions

Card : 1/1 Pub. 151 - 14/33

Authors : Khromov, S. I., Balenkova, E. S., Akishin, P. A., and Kazanskiy, B. A.

Title : Contact conversions of propylcycloheptane in the presence of a platinized carbon

Periodical : Zhur. ob. khim. 24/8, 1360 - 1364, August 1954

Abstract : Contact conversions of propylcycloheptane were investigated in the presence of platinized carbon at 320°. It was established that such contact conversion reactions take place with the formation of large quantities of 1-methyl-1-propylcyclohexane and some aromatic hydrocarbons (toluene, propylbenzene, butylbenzene, o-, m- and p-methyl propyl benzenes). The approximate ratio of hydrocarbons in the total catalysate mass of contact conversion of propylcycloheptane, is described. Seven references: 6 USSR and 1 USA (1937 - 1954). Tables.

Institution : State University, Moscow

Submitted : March 6, 1954

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000722410002-3

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000722410002-3"

KHROMOV, S. I.

USSR/Chemistry - Catalytic conversion

Card 1/1 : Pub. 151 - 15/42

Authors : Khromov, S. I.; Balenkova, E. S.; and Kazanskly, B. A.

Title : Contact conversions of butylcycloheptane in the presence of platinized C.

Periodical : Zhur. ob. khim. 24/9, 1562-1566, Sep 1954

Abstract : The behavior of butylcyclopentane in conditions of dehydrogenating catalysis was investigated. Contact conversion of butylcyclopentane over platinized carbon was studied at 320°. It was established that such contact conversions result in the formation of large quantities of 1-methyl-1-butylcyclohexane and aromatic hydrocarbon mixtures consisting of toluene, butylbenzene, o-, m- and p-methylbutylbenzenes, the fractional composition of which are shown in tables. Four references: 3-USSR and 1-USA (1937-1954).

Institution : State University, Moscow

Submitted : March 6, 1954

KHROMOV S.I.

KHROMOV, S.I.; BALENKOVA, Ye.S.; KAZANSKIY, B.A., akademik.

Contact conversion of 1-methyl-ethylcyclohexane in the presence of
platinized coal. Dokl.AN SSSR 96 no.1:95-97 My '54. (MLRA 7:5)

1. Laboratoriya organicheskoy khimii im. N.D.Zelinskogo Moskovskogo
gosudarstvennogo universiteta im. M.V.Lomonosova. (Ethylcyclohexane)

KHROMOV, S. I.

USSR/Chemistry

Card 1/1

Authors : Khromov, S. I., Balenkova, E. S., and Kazanskiy, B. A. Academician

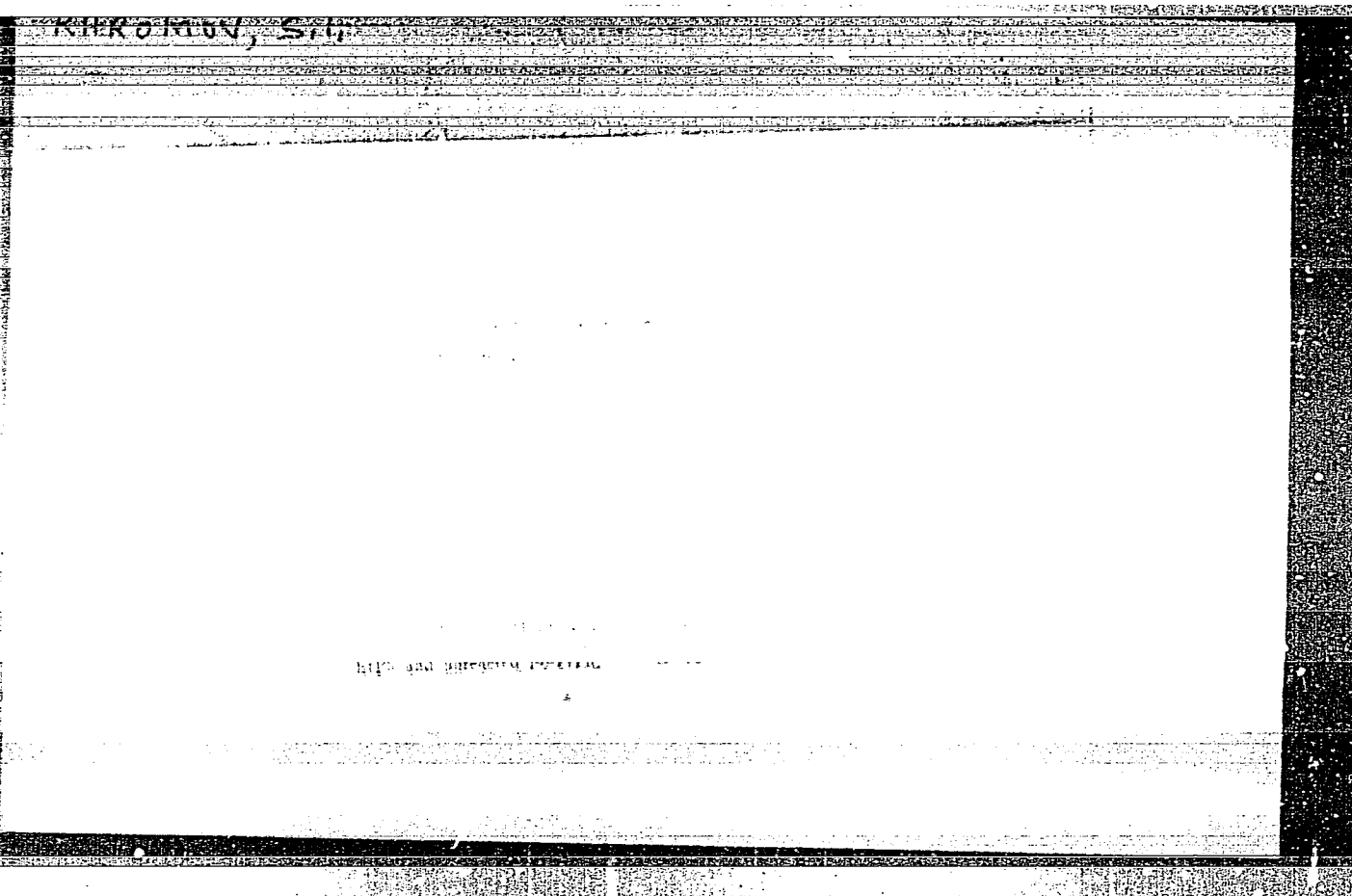
Title : Contact conversions of 1-methyl-1-propylcyclohexane in the presence of platinized carbon

Periodical : Dokl. AN SSSR, 96, Ed. 2, 295 - 297, May 1954

Abstract : Synthesized hydrocarbon 1-methyl-1-propylcyclohexane was contacted at 320° with a 10%-platinized carbon, as a result an aromatic hydrocarbon and immutable basic hydrocarbon mixture was obtained. The aromatic hydrocarbons separated through chromatographic adsorption over silica gel were subjected to thorough fractionation over a column with an effectiveness of 40 theoretical plates. It was established that the trend of the contact conversion processes for 1-methyl-1-propylcyclohexane is the same as in the conversion of 1-methyl-1-ethylcyclohexane. Four USSR references, since 1937. Tables, Graphs.

Institution : The M. V. Lomonosov State University, N. D. Zelinskiy Laboratory of Organic Chemistry, Moscow.

Submitted : February 26, 1954



USSR/Chemistry

Catalysis

Card : 1/1

Authors : Khromov, S. I., Balenkova, E. S., Akishin, I. P. A. and Kazanskiy, B. A., Academ.

Title : Contact conversions of 1-methyl-1-butylcyclohexane in the presence of platinum coated carbon

Periodical : Dokl. AN SSSR, 97, Ed. 1, 103 - 106, July 1954

Abstract : Formula is given showing the trend of the chemical reaction leading to the conversion of 1-methyl-1-butylcyclohexane over a platinum coated carbon catalyst. The formation of naphthalin during contact conversions of such hydrocarbons is explained by the secondary chemical conversions occurring during the catalysis of butyl benzene. The approximate ratio of aromatic hydrocarbons found in the catalysate obtained from contact conversion of 1-methyl-1-butylcyclohexane, is described. Five references: 4 USSR, 1 USA. Tables, graph.

Institution : The M. V. Lomonosov State University, The N. D. Zelinskiy Lab. of Org. Chem., Moscow.

Submitted : April 27, 1954

KHROMOV, S. I.

USSR/ Chemistry - Catalysts

Card : 1/1

Authors : Novikov, S. S., Khromov, S. I. and Sevostyanova, V. V.

Title : Contact conversions of ethyl- and butylcyclopentane in conditions of increased temperature and hydrogen pressure

Periodical : Dokl. AN SSSR, 97, Ed. 3, 463 - 466, July 21, 1954

Abstract : The effect of oxide-metallic catalysts, increased temperatures and hydrogen pressure on the contact conversions of ethyl- and butylcyclopentanes, was investigated. The effect of catalyst composition and magnitude of the hydrocarbon side-chain on the contact conversion, is explained. The hydro- and dehydrogenation activity of the Pt and Ni catalysts was determined by the hydrogenation reaction of benzene and the dehydrogenation reaction of cyclohexane. The results obtained are shown in tables. Five references: 4-USSR and 1-German.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organ. Chemistry

Presented by : Academician, B. A. Kazanskiy, March 24, 1954

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000722410002-3

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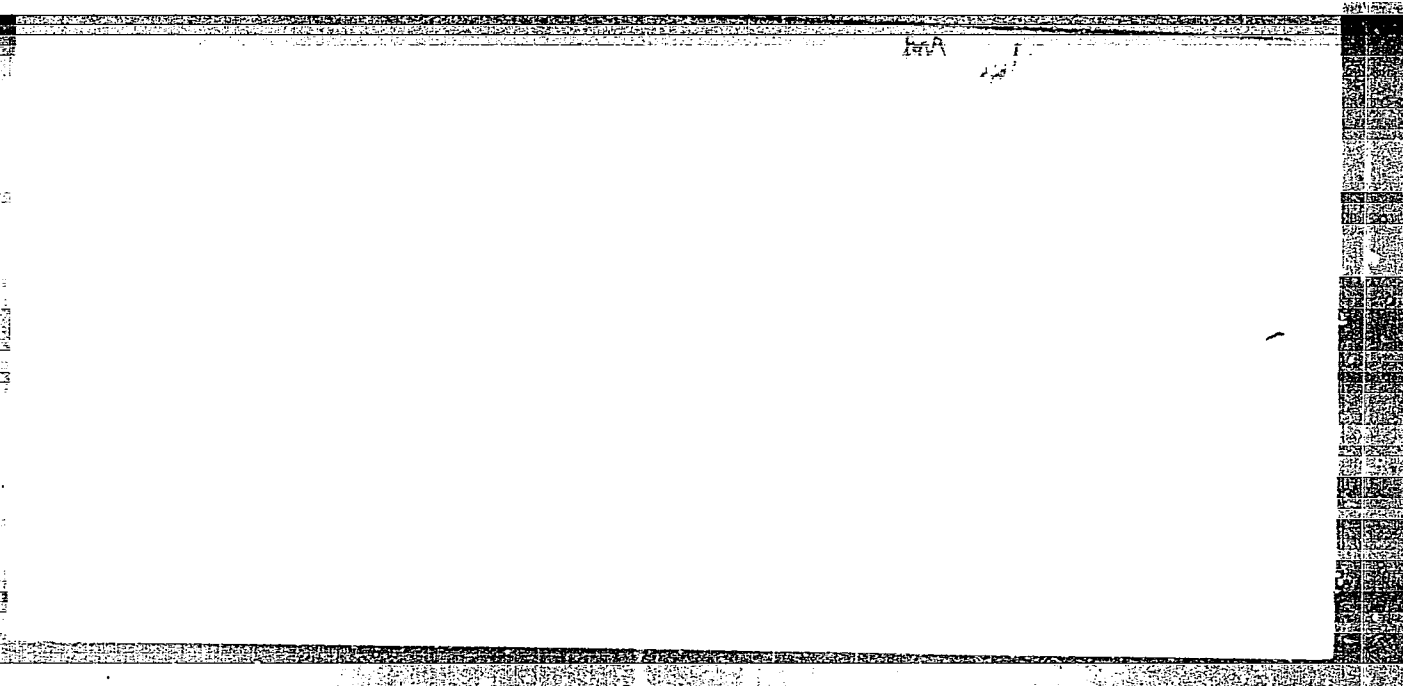
Chair Petroleum Chemistry

APPROVED FOR RELEASE: 03/13/2001

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APPROVED FOR RELEASE: 03/13/2001

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Khromov S. I.

6

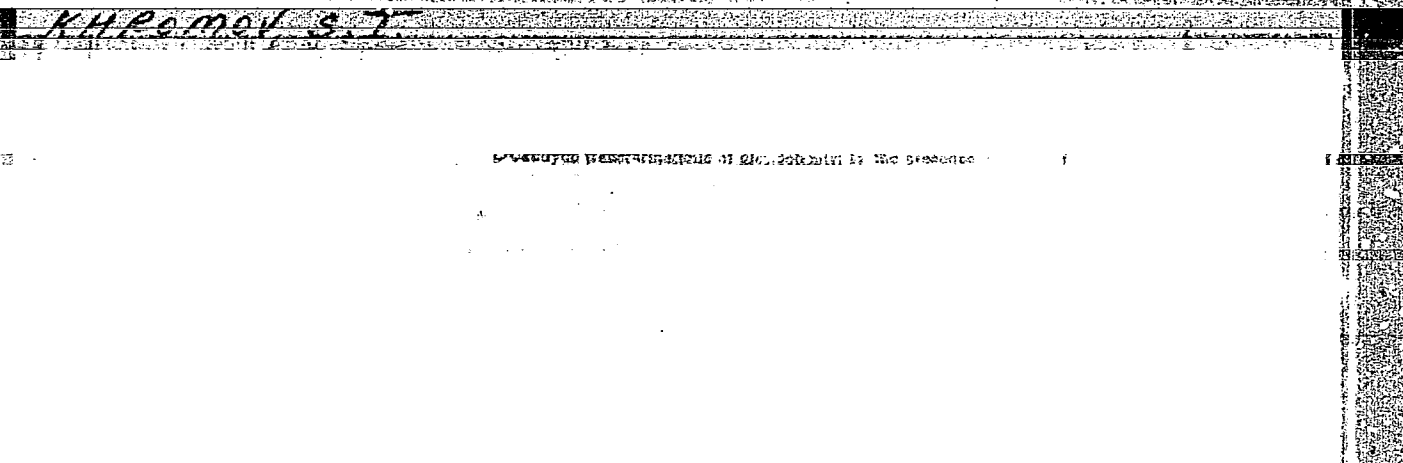
Contact transformations of 1-methyl-1-cyclopentylcyclohexane in the presence of platinized carbon. S. I. Khromov, O. V. Bragin, and E. S. Balenkova (Moscow State Univ., *I. Zhur. Obshch. Khim.* 25, 1992-5 (1955).—Addn. of $HgCl_2$ to an ethereal soln. of $(CH_3)_2CHMgCl$, followed by slow addn. of 1-chloro-1-methylcyclohexane, and refluxing 20 hrs. in Et_2O and 15 hrs. in $MePh$, gave 0.5% 1-methyl-1-cyclopentylcyclohexane, bp $98-6^\circ$, n_D^{20} 1.4830, d_4^{20} 0.8352. This, passed over 10% Pt-C at 320° at 0.2 space velocity gave 38% mixt. of phenylcyclopentane, $MePh$, isomeric amylbenzenes and 1- MeC_5H_9 , which were identified after fractionation by their const. O. M. Kuznetsov

(3)

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"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000722410002-3



APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000722410002-3"

~~KHROMOV, S.I.~~; KONDRAT'YEV, D.A.; BALENIKOVA, Ye.S.; KAZANSKIY, B.A., akademik.

Contact transformations of 1, 1' - β dimethyldicyclohexyl in the presence of platinized carbon. Dokl. AN SSSR 109 no.1:109-112 J1-Ag '56.
(MLRA 9:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Dimethyldicyclohexyl)

13. D. Zafineba

U.S. - 67-440, 9 AUG 68

~~... In the ...~~

KHROMOV, S.I., dotsent.

All-Union interuniversity conference on petroleum chemistry.
Vest.Mosk.un. 12 no.1:205-206 '57. (MLRA 10:8)
(Moscow--Petroleum)

KHROMOV, S.I.; RADZHABLI-SEIDOVA, N.A.; TRESHCHOVA, Ye.G.; KAZANSKIY, B.A.

Contact conversions of 1-methyl-1-phenylcyclohexane and phenylcyclohexane in the presence of aluminosilicate catalysts. Vest. Mosk. un. Ser. mat., mekh., astron., fiz. khim., 12 no.5:171-176 '57. (MIRA 11:9)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo universiteta.
(Cyclohexane) (Catalysts)

KHROMOV, S.I.;BALENKOVA,Ye.S.; KAZANSKIY, B.A.

Catalytic dehydrogenation conditions for transformations of
1,1-disubstituted cyclopentanes with five and six membered rings. Vest. Mosk.
un. Ser. mat., mekh., astron. fiz., khim. 12 no. 6:225-236 '57.

(MIRA 11:10)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo universiteta.
(Cyclic compounds)
(Dehydrogenation)

SOV/81-59-9-32804

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 9, pp 478 - 479 (USSR)

AUTHORS: Entin, I.G., Silant'yeva, A.G., Gostunskaya, I.V., Khromov, S.I.

TITLE: An Investigation of the Group Chemical Composition of Light Oil of Kerosene Pyrolysis //

PERIODICAL: V sb.: Sostav i svoystva neftey i benzino-kerosinovykh fraktsiy. Moscow, AS USSR, 1957, pp 417 - 427

ABSTRACT: The group composition of 2 light oils of kerosene pyrolysis (I and II) has been studied. Diolefines (with conjugated double bonds) were separated by heating with maleic anhydride (4 hours, boiling in ampoules). For the determination of aromatic hydrocarbons (H) with unsaturated side chains and of the nature of unsaturated H after elimination of diolefines, hydrogenation of the oils I and II and the fractions of oil I of up to 95, 95 - 122, 122 - 150, 150 - 175, >175°C was carried out under soft conditions (skeleton Ni-catalyst, usual temperature), as well as sulfonation before and after hydrogenation. The content of paraffins and naphthenes was determined

Card 1/2

SOV/81-59-9-32804

An Investigation of the Group Chemical Composition of Light Oil of Kerosene
Pyrolysis

from the aulin points of the fractions. It has been established that the content of aromatic H of unsaturated nature is 12.5 and 10.5%, aromatic H of saturated nature 71.5 and 78.5, paraffin H 3.5 and 1.6, naphthene H 3.0 and 1.4, olefines 2.5 and 3.5, cycloolefines 3.0 and 3.0, diolefines with conjugated bonds 4.0 and 1.5.

Ye. Pokrovskaya

Card 2/2

KHROMOV, S. I.

КАТАЛИТИЧЕСКОЕ ОКИСЛЕНИЕ
1,4-ДИЭТАМЕРНЫХ ЭТИЛЕНОВЫХ
ДИМЕТИЛЕНОВЫХ ПОЛИМЕРОВ
С. И. ХРОМОВ, Э. С. БЕЗРУКОВА, Н. А. ГОРЮНОВА
И. А. НАЗАРОВА

VIII Mendeleev Congress for General and Applied Chemistry on
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1959

abstracts of reports scheduled to be presented at above mentioned congress,
Moscow, 15 March 1959.

5(3)
 AUTHORS: Khromov, S. I., Radzhabli-Seidova, N. A., Kazanskiy, B. A. SOV/156-59-1-37/54

TITLE: The Contact Conversions of hem-Dialkyl-cyclohexane Hydrocarbons on an Alumosilicate Catalyst (Kontaknyye prevrashcheniya gem-dialkiltsiklogeksanovykh uglevodorodov na alyumosilikatnom katalizatore)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 143 - 146 (USSR)

ABSTRACT: An investigation made into the catalytic cracking of 1,1-dimethyl-cyclohexane, 1-methyl-1-ethyl-cyclohexane, 1-methyl-1-propyl-cyclohexane, and 1-methyl-1-butyl-cyclohexane, on an alumosilicate catalyst at 500°. In preliminary experiments this temperature had been found to be the optimum. The separation from the quaternary carbon atom of one or both alkyl groups occurred on the partial isomerization of the ring and hydration by means of hydrogen re-arrangement. Besides, a dehydration of the hexacyclic hydrocarbons into benzene and toluene takes place. The alkyl benzenes are probably formed in two ways: alkylation by cracking products of the benzene ring, and alkylation of the hexacyclic naphthenes with the

Card 1/3

The Contact Conversions of hem-Dialkyl-cyclohexane
Hydrocarbons on an Alumosilicate Catalyst

SOV/156-53-1-37/54

formation of mainly dimethyl and trimethyl-cyclohexane on a subsequent dehydration into the corresponding aromatic hydrocarbons. The resulting gaseous hydrocarbons and liquid paraffins are cracking products. The main products of contact conversion among the hydrocarbons investigated were aromatic hydrocarbons; m-xylol and p-xylol are formed independently of the initial product in a ratio of 2:1. The ratio of liquid paraffins to naphthenes was approximately 1:3.5. Subsequently, data on the synthesis as well as the physical data (boiling points, refractive indices, etc) of the synthesized initial products are given (Table 1). In table 2 the conversion products established and their percentage share in the converted part of the initial substance are listed. With a rising number of carbon atoms in the alkyl group also the part of the initial substance that enters into the reaction rises. (In 1,1-dimethyl-cyclohexane 42.4% participated in the reaction, as against 84.2% in the case of 1-methyl-1-butyl-cyclohexane). There are 2 tables and 9 references, 6 of which are Soviet.

Cará 2/3

The Contact Conversions of hem-Dialkyl-cyclohexane
Hydrocarbons on an Alumosilicate Catalyst

SOV/156-59-1-37/54

ASSOCIATION: Kafedra nefiti Moskovskogo gosudarstvennogo universiteta
im. M. V. Lomonosova (Chair of Petroleum of Moscow State
University imeni M. V. Lomonosov)

SUBMITTED: July 30, 1958

Card 3/3

69792

5.3300

S/055/59/000/06/22/027
B004/B002

AUTHORS: Khromov, S. I., Balenkova, Ye. S., Sankov, B. G.

TITLE: Synthesis and Catalytic Conversions of 1,1'-Diethyldicyclohexyl¹
and 1-Methyl-1-tertiary-butylcyclohexane Under the Conditions of
Dehydrogenation Catalysis ¹

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki,
astronomii, fiziki, khimii, 1959, No. 6, pp. 180 - 185

TEXT: The authors describe the synthesis of 1,1'-diethyl-dicyclohexyl produced for the first time: Cyclohexanone and ethyl magnesium bromide yielded 1-ethyl-cyclohexanol-1. This was dissolved in ether and caused to react with its organo-magnesium compound. Copper chips and CuCl were used as catalyst. Pure preparation was made chromatographically. 1-methyl-1-tert-butyl-cyclohexane was for the first time produced by the reaction of dimethylzinc and 1-Cl-1-tert-butylcyclohexane. The latter was obtained by dehydration of cyclohexanol into cyclohexene via Al_2O_3 at 380° , and by condensation with tert-butylchloride in the presence of BF_3 . Both compounds whose physical constants are given in table 1, were de-

Card 1/2

Synthesis and Catalytic Conversions of
1,1'-Diethyldicyclohexyl and 1-Methyl-1-tertiary-
butylcyclohexane Under the Conditions of Dehydro-
genation Catalysis

69792
S/055/59/000/06/22/027
B004/B002

hydrogenated on platinized coal at 320°. The following results were obtained:
1,1'-diethyldicyclohexyl mainly develops ethylbenzene, 1-ethyl-1-phenylcyclo-
hexane, 2-ethyldiphenyl, and low amounts of phenanthrene (Scheme and Tables 3,4).
From 1-methyl-1-tert-butylcyclohexane 70% of toluene and 25% of tertiary butyl-
benzene were produced (Scheme and Tables 1,2). These reactions indicated a
weakening of the C-C bond of the two neighboring tetrasubstituted carbon atoms.
There are 4 tables and 10 references, 5 of which are Soviet.

ASSOCIATION: Kafedra khimii nef'ti (Chair of Petroleum Chemistry)

SUBMITTED: March 30, 1959

Card 2/2

S/020/60/135/002/020/036
B016/B052

AUTHORS: Kazanskiy, B. A., Academician, Khromov, S. I.,
Lieberman, A. L., Balenkova, Ye. S., Vasina, T. V.,
Aleksanyan, V. T., and Sterin, Kh. Ye.

TITLE: Contact Transformations of Cyclodecane in the Presence of
Platinized Charcoal

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 2,
pp. 327 - 330

TEXT: The authors studied the following problem: Hitherto (Refs.1,2) it
has been stated that cyclodecane on platinized charcoal is directly
transformed into azulene. In connection with the C₅ dehydrocyclization
(Ref.4) which has been discovered in the meantime, the question arose
whether the formation of azulene is a secondary process, while deca-
hydroazulene is formed in the main reaction (transannular C₅ dehydro-
cyclization) and yields azulene by dehydrogenation. To prove this reac-
tion, cyclodecane was catalyzed on platinized charcoal (5 and 20% Pt)

Card 1/4

Contact Transformations of Cyclodecane in the Presence of Platinized Charcoal

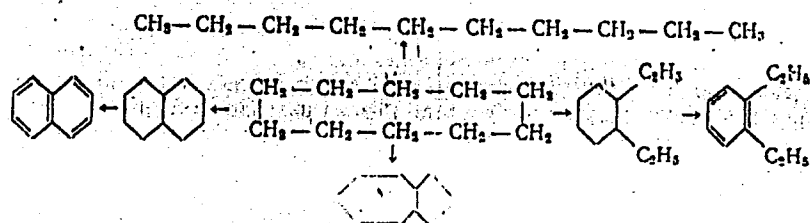
S/020/60/135/002/020/036
B016/B052

at 300 and 310°C and without tear gas. It was shown that the major part of cyclodecane is transformed. After rectification, the catalyzates were chromatographed on silica gel, and their Raman spectra were studied. The catalyzates proved to be complicated mixtures containing aromatic, paraffin, mono-, and bicyclic naphthene hydrocarbons. Naphthalene and o-diethyl benzene were found to be most important. Small amounts of α-methyl indan, n-butyl benzene, indan, and o-methyl benzene were detected. Approximately equal amounts of n-decane, cis-decahydroazulene, and 1,2-diethylcyclohexane, a small amount of trans-decalin, and a hydrocarbon of unknown spectrum were detected in the paraffin - naphthene part. The formation of decalin and naphthalene is obviously the result of transannular C₆ dehydrocyclization, while decahydroazulene is obtained from cyclodecane by C₅ dehydrocyclization. This indicates that C₅ and C₆ dehydrocyclizations are caused not only by the closure of open chains, but may also occur within a cycle while bicyclic systems are formed. Thus, n-decane can only have formed in the catalyzate by cleavage of the ten-membered cycle. Since hydrogenolysis has been

Card 2/4

Contact Transformations of Cyclodecane in the Presence of Platinized Charcoal

achieved only in cycles with no more than 5 hydrocarbon atoms, this observation is of fundamental importance. Hitherto, the formation of o-diethyl benzene and 1,2-diethyl cyclohexane has not been explained. It is pointed out that none of the traditional reactions can be used to explain this observation. The following reaction scheme is suggested for cyclodecane on platinized charcoal:



The remaining hydrocarbons detected in the catalyzate were probably formed by secondary transformations. There are 4 tables and 9 references: 6 Soviet, 2 US, and 1 Swiss.

Card 3/4

Contact Transformations of Cyclohexane in the Presence of Platinized Charcoal S/020/60/135/002/020/036
BQ16/B052

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova
(Moscow State University imeni M.V. Lomonosov). Komissiya
po spektroskopii Akademii nauk SSSR (Commission of
Spectroscopy of the Academy of Sciences USSR). Institut
organicheskoy khimii im. N.D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni
N. D. Zelinskiy of the Academy of Sciences USSR) ✓

SUBMITTED: July 28, 1960

Card 4/4

KHROMOV, S.I.;BALENKOVA, Ye.S.;TRESHCHOVA, Ye.G.

Synthesis and contact transformations of cyclopentylcycloheptane in the presence of platinized carbon. Vest Mosk. un. Ser. mat., mekh., astron., fiz., khim. 14 no.2:143-148 '59 (MIRA 13:3)

1. Kafedra khimii nefi Moskovskogo gosuniversiteta.
(Cycloheptane) (Carbon) (Platinum)

BALENKOVA, Ye.S.; SOSNINA, I.Ye.; TUROVA-POLYAK, M.B.; ~~KHROMOV~~, S.I.

Studying the effect of aluminum chloride on cyclodecane;
brief report. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim.
14 no.3:203-204 '59. (MIRA 13:5)

1. Kafedra organicheskogo katalisa Moskovskogo gosudar-
stvennogo universiteta.
(Aluminum chloride) (Cyclodecane)

5(3)

SOV/79-29-7-24/83

AUTHORS:

Radzhabli-Seidova, N. A., Khromov, S. I., Gitina, R. M.,
Balenkova, Ye. S., Treshchova, Ye. G., Kazanskiy, B. A.

TITLE:

Contact Transformations of 1,1-Dimethyl Cyclohexane and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate Catalyst (Kontaknyye prevrashcheniya 1,1-dimetiltsiklogeksana i 1-metil-1-etil-tsiklogeksana v prisutstvii alyumosilikatnogo katalizatora)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2212-2218 (USSR)

ABSTRACT:

The numerous Russian petroleum types contain among other cycloparaffin hydrocarbons 1,1-dimethyl cyclohexane and 1,1,3-trimethyl cyclohexane (Ref 1). According to reference 2 also the transformations of 1,1-dimethyl cyclohexane at 540° over an aluminosilicate catalyst are described. For the authors it was of interest to investigate the behavior of the most simple mixed methyl alkyl cyclohexanes in the catalytic cracking process over an aluminosilicate catalyst. For this purpose the behavior of 1,1-dimethyl cyclohexane and 1-methyl-1-ethyl cyclohexane over the above catalyst were investigated at 500°. In this connection gaseous products, a liquid condensate, and coke which separated on the catalyst were

Card 1/3

Contact Transformations of 1,1-Dimethyl Cyclohexane and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate Catalyst S07/79-29-7-24/83

obtained. The gaseous products were first fractionated at low temperatures and then determined. The liquid condensate was subjected to an accurate rectification, chromatographic adsorption on silica gel as well as to optical and chemical investigations. The following per cent composition of the reaction products of 1,1-dimethyl cyclohexane were found: hydrocarbon 21.4%, liquid paraffin hydrocarbons 2.6%, naphthene hydrocarbons 8.4, aromatic hydrocarbons 45.2%, coke 22.4%. For 1-methyl-1-ethyl cyclohexane (in wt%): 10.8% gaseous hydrocarbons, 23.0% mixture of paraffin naphthene hydrocarbons, 40.5% aromatic hydrocarbons, 25.7% coke. Under the chosen conditions of catalysis the separation of the alkyl groups which are in the quaternary cyclic carbon atom, hydrocracking process, methylation, aromatization as well as the isomerization of the six-membered cycles into five-membered ones take place. The main products are aromatic hydrocarbons and in small quantities paraffin and

Card 2/3

Contact Transformations of 1,1-Dimethyl Cyclohexane SOV/79-29-7-24/83
and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate
Catalyst

naphthene-hydrocarbons. The direction of the contact transformations of the mixed dialkyl cyclohexanes are illustrated by the scheme in the experimental part. There are 6 tables and 11 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: June 3, 1958

Card 3/3

5(3)

AUTHORS:

SOV/79-29-7-25/83
Radzhabli-Seidova, N. A., ~~Khromov, S. I.~~, Dorzhin, Ch.,
Balenkova, Ye. S., Treshchova, Ye. G., Kazanskiy, B. A.

TITLE:

Contact Transformations of 1-Methyl-1-propylcyclohexane and
1-Methyl-1-butylcyclohexane on an Aluminum Silicate Catalyst
(Kontaknyye prevrashcheniya 1-metil-1-propiltsiklogeksana i
1-metil-1-butiltsiklogeksana na alyumosilikatnom katalizatore)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2219-2224 (USSR)

ABSTRACT:

The authors continued their investigations (Ref 1) and synthesized 1-methyl-1-propylcyclohexane and 1-methyl-1-butylcyclohexane over an aluminum silicate catalyst at 500°; under the earlier conditions also in this case gaseous hydrocarbons, a liquid condensate, and coke separated on the catalyst were obtained. The gaseous products were fractionated at low temperature by means of the apparatus TsiATIM-51-U and the composition of the separated fractions was determined by means of the apparatus VII. In order to determine the composition of the condensate, rectification, chromatographic adsorption on silica gel as well as optical and chemical methods were applied of investigation. The following wt% were obtained for the

Card 1/2

Contact Transformations of 1-Methyl-1-propylcyclohexane SOV/79-29-7-25/83
and 1-Methyl-1-butylcyclohexane on an Aluminum Silicate Catalyst

transformation products of 1-methyl-1-propyl cyclohexane:
gaseous hydrocarbons 23.8%, liquid paraffins 5.9%,
naphthenes 20.5%, aromatic hydrocarbons 33.3%, coke 16.5% .
The following resulted from 1-methyl-1-butylcyclohexane:
gaseous hydrocarbons 30.6%, liquid paraffins 4.8%, naphthenes
17.0%, aromatic hydrocarbons 41.8%, coke 5.8%. The results
obtained confirm the rules set up already earlier (Ref 1) for
the catalytic transformation of 1,1-dimethyl cyclohexane and
1-methyl-1-ethyl cyclohexane. Also in this case the main
products were aromatic hydrocarbons. In the gaseous products
saturated hydrocarbons predominate (propane and butane). With
increasing number of the carbon atoms in the alkyl group of the
above compounds also the intensity of catalytic transformation
increases. There are 6 tables and 6 references, 4 of which are
Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: June 9, 1958

Card 2/2

3/081/60/000/022/002/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, pp. 174-175,
88528

AUTHORS: Kazanskiy, B. A., Khromov, S. I., Radzhabli-Seidova, N. A., Balenkova,
Ye. S.

TITLE: The Formation of Aromatic Hydrocarbons at Contact-Catalytical Trans-
formation of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate
Catalyst

PERIODICAL: Azerb. khim. zh., 1959, No. 5, pp. 3-12 (Azerbaijdzhan summary)

TEXT: The transformations were studied of 1-methyl-1-alkyl-cyclohexanes:
1,1-dimethyl-cyclohexane, 1-methyl-1-ethyl-cyclohexane, 1-methyl-1-propyl-cyclo-
hexane, and 1-methyl-1-butyl-cyclohexane in a stream system over a synthetic
aluminum-silicate catalyst at 500 °C and 0.23 hr⁻¹ volume velocity. Hereat the
following reactions proceed: detachment and rupture of the side chains, methyl-
ation in the nucleus, isomerization of the six-membered cycle to the five-membered
one, and hydrogen disproportionation. Aromatic hydrocarbons are the main trans-
formation products (output about 33-45 percentage by weight with respect to the

Card 1/3

S/081/60/000/022/002/016
A005/A001

The Formation of Aromatic Hydrocarbons at Contact-Catalytical Transformation of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate Catalyst

transformed 1-methyl-1-alkyl-cyclohexane): mixtures of the isomeric xylols and trimethylbenzenes, toluene, and a small quantity of benzene; in the xylol mixture the isomers content decreases in the sequence meta > para > ortho-isomers, whereat the content of the meta-isomer is approximately twice as high as that of the para-isomer for all 1-methyl-1-alkyl-cyclohexanes. The absence among the transformation products of 1-methyl-1-propyl-cyclohexane, 1-methyl-1-butyl cyclohexane, propyl- and respectively butyl-benzene points out that the alkyl group with larger chain length detaches easier. Moreover, alkanes are formed (in the main gaseous alkanes, predominantly C_3H_8 and C_4H_{10}), six-membered naphthenes (cyclohexane, methyl-cyclohexane) and five-membered naphthenes [cyclopentane, methyl-cyclopentane, 1,2-dimethyl-cyclopentane]. With increasing side-chain length of 1-methyl-1-alkyl-cyclohexane, the degree of transformation increases from 42% for 1,1-dimethyl-cyclohexane up to 84% for 1-methyl-1-butyl-cyclohexane. The transformation of 1-methyl-1-phenyl-cyclohexane over the same catalyst proceeds easier than that of 1-methyl-1-alkyl-cyclohexane, and 85% of 1-methyl-1-phenyl-cyclohexane undergoes already at 350 °C the transformation without formation of gaseous products. Among

Card 2/3

S/081/60/000/022/002/016
A005/A001

The Formation of Aromatic Hydrocarbons at Contact-Catalytical Transformations of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate Catalyst

the transformation products, aromatic hydrocarbons are predominant (46.5% benzene, 5% toluene) and naphthenes (about 40%): a mixture of the isomeric dimethyl-cyclopentane, ethyl-cyclopentane, and methyl-cyclohexane. Under the same conditions, the transformation degree of phenyl-cyclohexane amounts to 57%, and the transformation products are benzene (48.9%) and methyl-cyclopentane (48.5%). Assumptions are expressed on the possible ways of naphthene formation. 1,1-dimethyl-cyclohexane was obtained by the described method (Zelinskiy, N. D., Yelagina, N. V., Dokl. AN SSSR, 1950, Vol. 73, No. 3, p. 705), modified according to Khuan-Minlon, which led to increasing output of 1,1-dimethyl-cyclohexane from 58 to 78% with respect to ketone. 1-methyl-1-ethyl-cyclohexane was obtained with 38% output by the action of 1-chloro-1-methyl-cyclohexane on $(C_2H_5)_2Zn$ in tetralin. The synthesis of 1-methyl-1-propyl-cyclohexane and 1-methyl-1-butyl-cyclohexane was performed by interaction of 1-chloro-1-methyl-cyclohexane with the corresponding $RMgBr$ (R is alkyl) with 6-12% output. 1-methyl-1-phenyl-cyclohexane was obtained with 53% output from 1-methyl-cyclohexanol-1 and benzene in the presence of $AlCl_3$.
A. Belotsvetov

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

KHROMOV, S.I., BALENKOVA, Ye. S., KAZANSKIY, B.A.

Catalytic conversions of heptamethylene hydrocarbons under conditions of dehydrogenation catalysis. Vent. Mosk. un. Ser. 2: khim. 15 no.2:36-46 Mr-Apr '60. (MIRA 13:6)

1. Kafedra khimii nefti Moskovskogo universiteta.
(Hydrocarbons) (Dehydrogenation) (Catalysis)

84651

5.3300 only 2209, 1285

S/020/60/133/005/032/034/XX
B016/B060

AUTHORS: Kazanskiy, B. A., Academician, Shokova, E. A., Khromov, S. I.,
Aleksanyan, V. T., and Sterin, Kh. Ye.

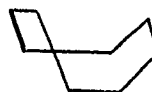
TITLE: Contact Conversions of Cyclooctane in the Presence of
Platinized Coal

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 5,
pp. 1090 - 1093

TEXT: The authors wanted to find out the behavior of polymethylenes of average ring size on platinized coal at lower temperatures than those applied by V. Prelog (Ref. 1). Moreover, they wanted to repeat the incomplete work of N. D. Zelinskiy and G. I. Freyman (Ref. 3). According to the latest notions, cyclooctane can principally exist in two most stable forms:



(I)



(II)

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Contact Conversions of Cyclooctane in the
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S/020/60/133/005/032/034/XX
B016/B060

The amount of (II) in cyclooctane is probably very small. In the centrosymmetric form (I), the four equatorial hydrogen atoms are placed higher than the central ring plane, whereas other four of them are placed below this plane. When any pair of these atoms in 1,5-position separates, the transannular C-C bond may form and cis-bicyclo-(0,3,3)-octane-(cis-pentalane) may result. In this work, the authors examined the conversions of cyclooctane on platinized coal at 310° in the presence and in the absence of hydrogen. A quantitative conversion of cyclooctane took place in both cases. In the absence of hydrogen, cis-bicyclo-(0,3,3)-octane-(cis-pentalane) developed in an amount of about 51 wt% of the catalyzate. Appreciable amounts were also obtained of trans-1-methyl-2-ethyl cyclopentane (about 23%) and n-propyl cyclopentane (about 20%), as well as smaller amounts (about 6%) of 4-methyl heptane. Basing on the reaction products, the authors set up a scheme of this reaction. Apparently, the first stage is the formation of cis-pentalane which then undergoes hydrogenolysis under the action of the resulting hydrogen. Trans-1-methyl-2-ethyl cyclopentane and n-propyl cyclopentane thus result. 4-methyl-1-heptane is formed by the hydrogenolysis of the latter. The same substances were formed in the presence of hydrogen, but the quantitative proportion was different. This

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is explained by a more intense hydrogenolysis of the five-membered ring in the presence of hydrogen. At the same time, the hydrogenolysis of pentalane and n-propyl cyclopentane takes place more smoothly than that of 1-methyl-2-ethyl cyclopentane. The authors were not able to detect methyl cycloheptane in the reaction products (as conversely stated in Ref. 3). About 1 - 2% of aromatic hydrocarbons were obtained: toluene, ethyl benzene, and o-xylene. Tables 1 - 4 collect the results of distillation, the individual fractions together with their constants, and the quantitative proportions of the resulting substances. They were determined from the Raman spectra (monograph by G. S. Landsberg, B. A. Kazanskiy, and others, Ref. 9) of the fractions. A paper by A. L. Liberman and others (Ref. 10) is mentioned. There are 4 tables and 11 references: 6 Soviet, 3 US, 1 Swiss, and 1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov). Komissiya po
spektroskopii Akademii nauk SSSR (Commission for Spectro-
scopy of the Academy of Sciences USSR)

SUBMITTED: May 11, 1960

Card 3/3

KAZANSKIY, B.A., akademik; ~~KHROMOV, S.I.~~; ~~LIBERMAN, A.L.~~; BALENKOVA,
Ye.S.; VASINA, T.V.; ALEKSANYAN, V.T.; STERIN, Kh.Ye.

Contact conversions of cyclodecane in the presence of
platinized carbon. Dokl. AN SSSR 135 no.2:327-330 N '60.

(MIRA 13:11)

1. Moskovskiy gosudarstvennyy universitet im.M.V.Lomonsova i
Komissiya po spektroskopii AN SSSR i Institut organicheskoy
khimii im.N.D.Zelinskogo AN SSSR.

(Cyclodecane)

S/020/60/135/003/030/039
B016/B054

AUTHORS: Khromov, S. I., Balenkova, Ye. S., Lishenok, O. Ye.,
and Kazanskiy, B. A., Academician

TITLE: Catalytic Transformations of Cyclononane in the Presence
of Platinized Charcoal

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3,
pp. 627 - 630

TEXT: The authors report on their experiments to clarify what transformations cyclononane undergoes on platinized charcoal at 300°C. They found that about 96% of cyclononane are transformed. They determined in the reaction products (approximately in %): indan 68, 1-methyl-2-ethyl benzene 22, n-propyl benzene 2, and n-nonane 7. The authors conclude from these results that two main processes take place: a) dehydrocyclization of cyclononane to hydrindane, and further dehydrogenation of the latter to indan; b) direct hydrogenolysis of the nine-membered ring to form n-nonane. The enclosed diagram illustrates the transformations mentioned. The authors explain the formation of n-propyl benzene and

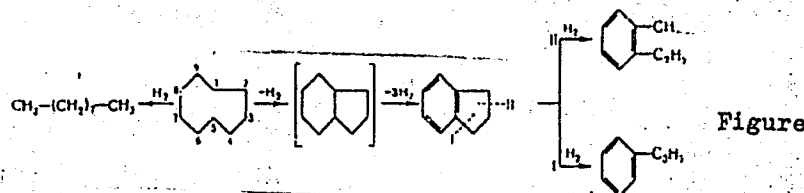
Card 1/2

Catalytic Transformations of Cyclononane in the Presence of Platinized Charcoal S/020/60/135/003/030/039
B016/B054

1-methyl-2-ethyl benzene by the following process: During the hydro-
genolysis of the five-membered ring in indan, two C-C bonds are ruptured:
1) one separated from the benzene ring by another C atom, and 2) one
adjacent to the benzene ring (the latter bond to a lower extent). The
authors explain process a) by the formation of a new bond between C₁ and
C₅ in the nine-membered ring, apparently due to the steric position of
carbon atoms in the cyclononane molecule. There are 1 figure, 2 tables,
and 11 references: 4 Soviet, 2 US, 1 French, 2 Swiss, and 1 German.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova
(Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 28, 1960



Card 2/2

SHOKOVA, E.A.; KHROMOV, S.I.; STERIN, Kh.Ye.; KAZANSKIY, B.A.

Contact conversions of cyclooctane in the presence of an alumina-chromium oxide catalyst. *Neftekhimia* 1 no.1:28-32 Ja-F '61.
(MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet, kafedra khimii nefti
i komissiya po spektroskopii AN SSSR.
(Cyclooctane) (Catalysts)

SHOKOVA, E.A.; KHRCMOV, S.I.; KAZANSKIY, B.A.

Catalytic method for preparing cis-bicyclo-(0, 3, 3)-octane.
Neftekhimia 1 no.3:353-355 My-Je '61. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,
kafedra khimii nefti.

GOSTUNSKAYA, I.V.; PLATE, A.F.; KIROV, S.I.

Reactions of hydrogenation and dehydrogenation of
hydrocarbons in works of the Academician B.A. Kazanskii.
Vest.Mosk.un.Ser.2:khim. 16 no.3:63-68 My-Je '61.

(MIRA 14:10)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo
universiteta.

(Kazanskii, Boris Aleksandrovich, 1891-)
(Hydrogenation)

TUROVA-POLYAK, M.B.; BALENKOVA, Ye.S.; SOSNINA, I.Ye.; KHROMOV, S.I.;
YUDKINA, T.P.

Isomerization of polymethylene hydrocarbons under the effect of
aluminum chloride. Part 24: Isomerization of cyclononane and
cyclodecane. Zhur.ob.khim. 31 no.6:1976-1981 Je '61.

(MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Cyclodecane) (Cyclononane) (Isomerization)

S/020/61/136/005/019/032
B103/B208

AUTHORS: Khromov, S. I., Shokova, E. A., Sterin, Kh. Ye., and
B. A. Kazanskiy, Academician

TITLE: Contact conversions of cyclooctane in the presence of a
nickel catalyst

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 5, 1961, 1112-1115

TEXT: The authors studied the conversions of cyclooctane on a catalyst consisting of 50% nickel on kieselguhr, a) at 250°C, and b) at 250°C in an intense hydrogen stream. In case a) ~ 61% of cyclooctane was converted, in case b) ~ 81%. The composition of the fractions obtained by distillation of the final catalyzates was studied by means of Raman spectra (methods described previously in Ref. 7). The authors concluded from the results that three processes take place at the rather mild temperatures applied: 1) hydrogenolysis of the 8-membered ring giving n-octane (in analogy to an identical process with substances with smaller rings, Refs. 2-5), which was detected for the first time by the

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Contact conversions of cyclooctane ...

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B103/B208

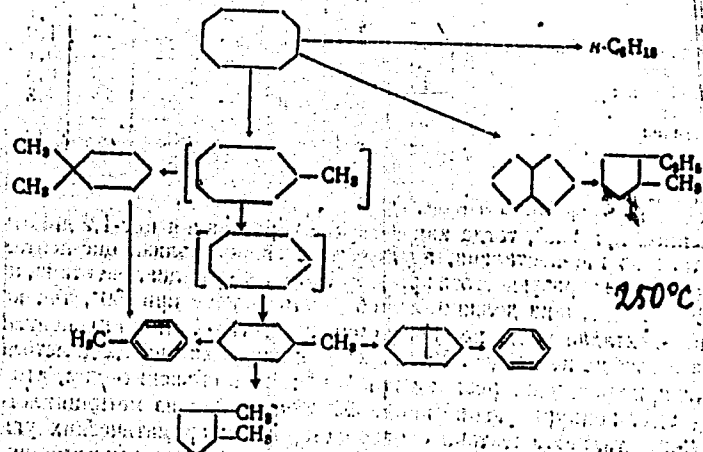
authors; 2) a transannular dehydrogenation which yields cis-pentalane, and 3) a stepwise isomerization of cyclooctane to compounds with 7-, 6-, and 5-membered rings. At 200°C, the following compounds were formed: n-heptane, cyclohexane, methyl cyclohexane, cyclopentane, and cis-1,2-dimethyl cyclopentane. The latter may be formed as a result of the afore-mentioned isomerization. About 46.5 wt% fall to the share of the unreacted cyclooctane. Very small quantities of cis-bicyclo-(0,3,3)-octane-(cis-pentalane) were also found. On the basis of these results the authors suggested the reaction scheme at 200°C.

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Contact conversions of cyclooctane ...

S/020/61/136/005/019/032
B103/B208

The catalyzate consisted at 250°C of ~ 8 wt% of cis-pentalane, ~ 11% toluene, and ~ 2% benzene (apart from the unreacted cyclooctane). Besides, the following compounds were obtained: methyl cyclohexane, cyclohexane, cis-1,2-dimethyl cyclopentane, and gem-dimethyl cyclohexane.



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Contact conversions of cyclooctane ...

S/020/61/136/005/019/032
B103/B208

The reaction temperature was found to play an important part in the quantitative interrelation of the afore-mentioned three processes at 200 and 250°C. Marked hydrogenolysis of cyclooctane occurs only at 200°C, and practically ends at 250°C. The formation of pentalane, on the other hand, is characteristic mainly of 250°C. The ring isomerization which is accompanied by hydrocracking takes place both at 200 and 250°C, but is in addition complicated at 250°C by an aromatization of hexamethylene hydrocarbons. The authors assume that small quantities of cis-1,2-dimethyl cyclopentene are formed at 250°C owing to competitive processes: from methyl cyclohexane, the latter compound is formed on the one hand, benzene and toluene on the other hand, with the equilibrium being shifted toward the latter two. No aromatization occurs at 200°C. The transannular dehydrogenation of cyclooctane to cis-pentalane, and the isomerization of the hydrocarbons also take place on platinized carbon, but at a higher temperature (310°C, Refs. 6,7). The experiments of the authors showed that this does not apply to cyclooctane at 200-250°C. There are 4 tables and 8 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

Card 5/6.

KHROMOV, S. I.

Dissertation defended for the degree of Doctor of Chemical Sciences
at the Institute of Organic Chemistry imeni N. D. Zelinskiy in 1962:

"Investigation in the Field of Catalytic Conversions of Polymethylene
Hydrocarbon."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

BALENKOVA, Ye.S.; KHROMOV, S.I.; SHOKOVA, E.A.; KUCHERYAVAYA, N.N.;
STERIN, Kh.Ye.; KAZANSKIY, B.A.

Catalytic conversions of cycloheptane. Neftekhimiia 2 no.3;
275-279 My-Je '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova i
Komissiya po spektroskopii AN SSSR.
(Cycloheptane) (Catalysis)

SHOKOVA, E.A.; KHROMOV, S.I.; BALENKOVA, Ye.S.; BOBROV, A.V.; STERIN, Kh.Ye.; KAZANSKIY, B.A.

Catalytic conversions of cyclononane and cyclodecane in the presence of nickel catalyst. Neftekhimiya 2 no.3:280-287 My-Je '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova i Komissiya po spektroskopii AN SSSR.
(Cyclononane) (Cyclodecane) (Nickel catalysts)

BALENKOVA, Ye.S.; ALYBINA, A.Yu.; AVDEYEVA, T.I.; KHROMOV, S.I.;
KAZANSKIY, B.A., akademik

Catalytic conversions of cyclododecane in the presence of
platinized carbon. Dokl. AN SSSR 155 no.1:118-121 Mr '64.
(MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

PSEHKOVA, V.M.; KHROMOV, S.I.; SHAKHPARONOV, M.I.

December Plenum of the Central Committee of the CPSU and the
chemical science at Moscow university. Vest. Mosk. un. Ser. 2:
Khim. 19 no.1:3-19 Ja-F '64. (MIRA 17:6)

BALENKOVA, Ye.S.; ALYBINA, A. Yu.; KOCHNOVA, G.P.; KHEZMACI, S.I.;
KAZANSKIY, B.A.

Catalytic conversions of cycloundecane in the presence of a
nickel catalyst. Neftekhimiya 4 no.1:16-20 Jan-1964
(MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova,
Kafedra khimii nefti.

KHROMOV, S.I.; DORZHIN CHULTEM; BALENKOVA, Ye.S.

Catalytic conversions of 1,1-dimethylcyclohexane on platinum catalysts at increased temperature and pressure of hydrogen.
Neftekhimiya 4 no.3:413-416 My-Je '64. (MIRA 18:2)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo universiteta.

BALENKOVA, Ye.S.; KHAFIZOVA. N.A.; FRANK, M.I.; KHROMOV, S.I.; KAZANSKIY, B.A.,
akademik

Transformations of methylcyclononane in the presence of a ferroplatinum
catalyst. Dokl. AN SSSR 158 no.5:1112-1115 O '64.

(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

KHROMOV, S.I.; DORZHIN CHULTEN; BAIENKOVA, Ye.S.

Catalytic transformations of 1,1'-dimethyldicyclohexyl and
1-methyl-1-phenylcyclohexane on platinum catalysts under
conditions of elevated temperature and hydrogen pressure.

Vest. Mosk. un. Ser. 2: Khim. 20 no.1:51-55 Ja-F '65.

(MIRA 18:3)

1. Kafedra khimii nefti Moskovskogo universiteta.

BALENKOVA, Ye.S.; KHAFIZOVA, N.A.; KHROMOV, S.I.; KAZANSKIY, B.A., akademik

Conversions of methylcyclooctane in the presence of platinum catalysts. Dokl. AN SSSR 161 no.6:1329-1332 Ap '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

BALENKOVA, Ye.S.; KHAFIZOVA, N.A.; KHROMOV, S.I.

Conversions of cis-8-methylhydrindan in the presence of
platinized carbon. Neftekhimiia 5 no.6:797-800 H-D '65.
(MIRA 19:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,
kafedra khimii nefti. Submitted Dec. 31, 1964.

L 02991-67 FWT(m)/FWP(t)/ETI LJP(c) MJW/JD/JG

ACC NR: AP6033155

SOURCE CODE: UR/0105/66/000/010/0082/0083

AUTHOR: Gorina, N. B.; Gruzov, Yu. A.; Kolobanov, V. V.; Matorin, V. I.; Prokoshin, A. F.; Rad'kov, A. I.; Sokolov, V. I.; Trat'yakov, B. N.; Fedotov, L. N.; Khromov, S. M.; Kuleshov, V. F.

ORG: Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardin (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: The 65BT superconducting alloy

SOURCE: Elektrichestvo, no. 10, 1966, 82-83.

TOPIC TAGS: superconducting alloy, superconductivity

ABSTRACT: A new, relatively low cost Nb-Ti based alloy, designated 65BT, which meets all the major requirements for superconductors has been developed. Because of its properties it can be used in 1) magnetizing devices, such as superconducting solenoids, for field strengths varying from 20 to 80 koe, and 2) wires 0.1—0.3 mm in diameter and up to 12,000 m long and tapes 5 μ thick. The alloy, which contains 65% niobium, 25% titanium, and several other components, is produced in

Card 1/2

UDC: 537.312.62

I. 02991-67

ACC NR: AP6033155

an arc furnace and, after thermal processing, is cold drawn. For use in superconducting solenoids, the alloy requires a 0.02—0.05-mm copper coating. Orig. art. has: 1 table.

SUB CODE: 20/ SUBM DATE: none/ ATD PRESS: 5099

AWM

Card 2/2